

PMC-ND  
(1.08.09.13)

**U.S. DEPARTMENT OF ENERGY**  
**OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY**  
**NEPA DETERMINATION**



RECIPIENT: General Motors LLC

STATE: MI

**PROJECT TITLE :** Durable High-Power Membrane Electrode Assemblies with Low-Pt-Loading

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
DE-FOA-0001412	DE-EE0007651	GFO-0007651-001	GO7651

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

**CX, EA, EIS APPENDIX AND NUMBER:**

## Description:

<b>A9 Information gathering, analysis, and dissemination</b>	Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to, document publication and distribution, and classroom training and informational programs), but not including site characterization or environmental monitoring. (See also B3.1 of appendix B to this subpart.)
<b>B3.6 Small-scale research and development, laboratory operations, and pilot projects</b>	Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

## Rationale for determination:

General Motors LLC (GM) would utilize DOE and cost share funding to generate a state-of-the-art membrane electrode assembly (MEA) materials that meet the DOE 2020 MEA cost and performance targets and map the impact of operating conditions on durability in implementable automotive conditions. The project would include MEA material development combined with accelerated stress testing, material characterization testing, performance and durability testing, and model development and validation. Project activities would occur at a GM facility in Michigan, Giner Inc. (Giner) facility in Massachusetts, and a laboratory facility at the University of Texas in Austin (UT-Austin). Giner will perform fabrication and testing of MEAs and UT-Austin will perform microscopy work.

Work occurring at GM, Giner, and UT-Austin would involve the use and handling of various chemicals, the use of hydrogen gas, and/or sample preparation for electron microscopy. All such handling would occur in-lab or within appropriate facilities. All hazardous materials would be managed in accordance with federal, state, and local environmental regulations and existing corporate health and safety policies and procedures would be followed including employee training, proper protective equipment, engineering controls, monitoring, and internal assessments. To help ensure compliance with applicable health and safety regulations and minimize health and safety risks to employee and the public, additional policies and procedures would be implemented as necessary as new health and safety risks are identified. The project would not require physical modification of existing facilities or construction of new facilities and there would be no change in the use, mission, or operation of any of the existing facilities in support of project work. No modifications to existing permits, or new permits, licenses or authorizations would be required to perform project activities. There would be no ground disturbing activities occurring as a result of project activities. Nanoscale materials (carbon nanotubes and metallic nanoparticles) would be used as part of the proposed project. All handling of such materials would occur in-lab and all health and safety procedures would be followed at each facility. All nanoscale materials would be disposed of in accordance with local, state and federal regulations.

Based on the review of the proposal, DOE has determined the proposal fits within the class of action(s) and the integral elements of Appendix B to Subpart D of 10 CFR 1021 outlined in the DOE categorical exclusion(s) selected above. DOE has also determined that: (1) there are no extraordinary circumstances (as defined by 10 CFR 1021.410 (2)) related to the proposal that may affect the significance of the environmental effects of the proposal; (2) the proposal has not been segmented to meet the definition of a categorical exclusion; and (3) the proposal is not



connected to other actions with potentially significant impacts, related to other proposals with cumulatively significant actions, or an improper interim action. This proposal is categorically excluded from further NEPA review.

**NEPA PROVISION**

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If the Recipient intends to make changes to the scope or objective of this project, the Recipient is required to contact the Project Officer, identified in Block 15 of the Assistance Agreement before proceeding. The Recipient must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved. If the Recipient moves forward with activities that are not authorized for Federal funding by the DOE Contracting Officer in advance of a final NEPA decision, the Recipient is doing so at risk of not receiving Federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

Fuel Cell Technologies Office

This NEPA determination does not require a tailored NEPA provision.

NEPA review submitted by Casey Strickland 10/03/16

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature: \_\_\_\_\_



Lori Gray

NEPA Compliance Officer

Date: \_\_\_\_\_

10/4/2016

**FIELD OFFICE MANAGER DETERMINATION**

☐ Field Office Manager review required

**NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:**

- ☐ Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- ☐ Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

**BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :**

Field Office Manager's Signature: \_\_\_\_\_

Field Office Manager

Date: \_\_\_\_\_